

5/17

|                         |              |                    |
|-------------------------|--------------|--------------------|
| DART AEROSPACE LTD      | Work Order:  | 22926              |
| Description: Hub Sleeve | Part Number: | D3233-5            |
| Dwg: D3233 Rev. B       | Qty:         | 9 8<br>Page 1 of 1 |

| Step | Location | Procedure   | By     | Date         | Qty |
|------|----------|---|--------|--------------|-----|
| 1    | DC       | Issue Traveler  | DH     | 05.04.06     | 8   |
| 2    | CL       | Turn as per Dwg D3233<br>Material: AISI 1020-1025 Seamless Round Tubing Cold Drawn per<br>MIL-T-5066 or ASTM A513-00 MT1020 SRA or AMS 5075 or AMS<br>5077<br>(M1020TR1.875W.250)<br>Identify for D3233-5 |        |              |     |
| 3    | QC2      | Inspect parts as they come off the machine<br>Identify as D3233-5   | M17015 | CPL 05/04/19 | 89  |
| 4    | CM       | Mill as per Dwg D3233   | EZ     | 05.04.26     | 9   |
| 5    | QC8      | Second check  | SD     | 05.05.04     | 9   |
| 6    | CM       | Deburr  | CPL    | 05.05.04     | 9   |
| 7    | QC5      | Inspect work to Step 6  | Z      | 05.05.04     | 9   |
| 8    | ST       | Identify and Stock  | CPL    | 05.05.04     | 9   |
| 9    | AC       | Cost / part <u>24.88</u>  | SAC    | 05.05.05     | 9   |
| 10   | DC       | Close W/O <u>24.88</u><br>Inspect Level 21  | DH     | 05.05.10     | 9   |

| Rev | Date     | Change    | Revised By | Approved    |
|-----|----------|-----------|------------|-------------|
| A   | 05.03.14 | New issue | KJ/JLM     | [Signature] |

**RELEASED**  
11/03/15

| WO:  |      | WORK ORDER CHANGES |    |      |     |                                 |                          |
|------|------|--------------------|----|------|-----|---------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Mfg / Design<br>Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                 |                          |
|      |      |                    |    |      |     |                                 |                          |

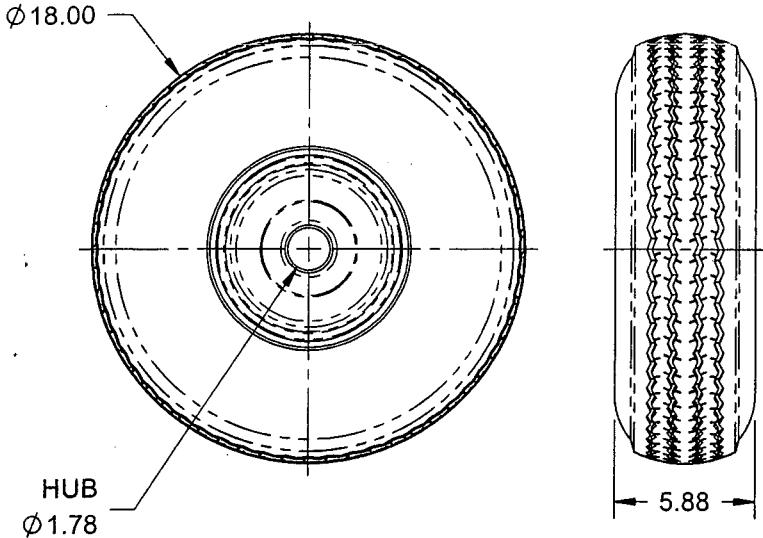
| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                  |                |                           |                        |                          |
|------|------|----------------------------------|-----------------------------|----------------------------------|----------------|---------------------------|------------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                  |                | Verification<br>Section C | Approval<br>Design Mgr | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Design Mgr       | Action Description<br>Design Mgr | Sign &<br>Date |                           |                        |                          |
|      |      |                                  |                             |                                  |                |                           |                        |                          |
|      |      |                                  |                             |                                  |                |                           |                        |                          |
|      |      |                                  |                             |                                  |                |                           |                        |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

NOTE: Date & initial all entries QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

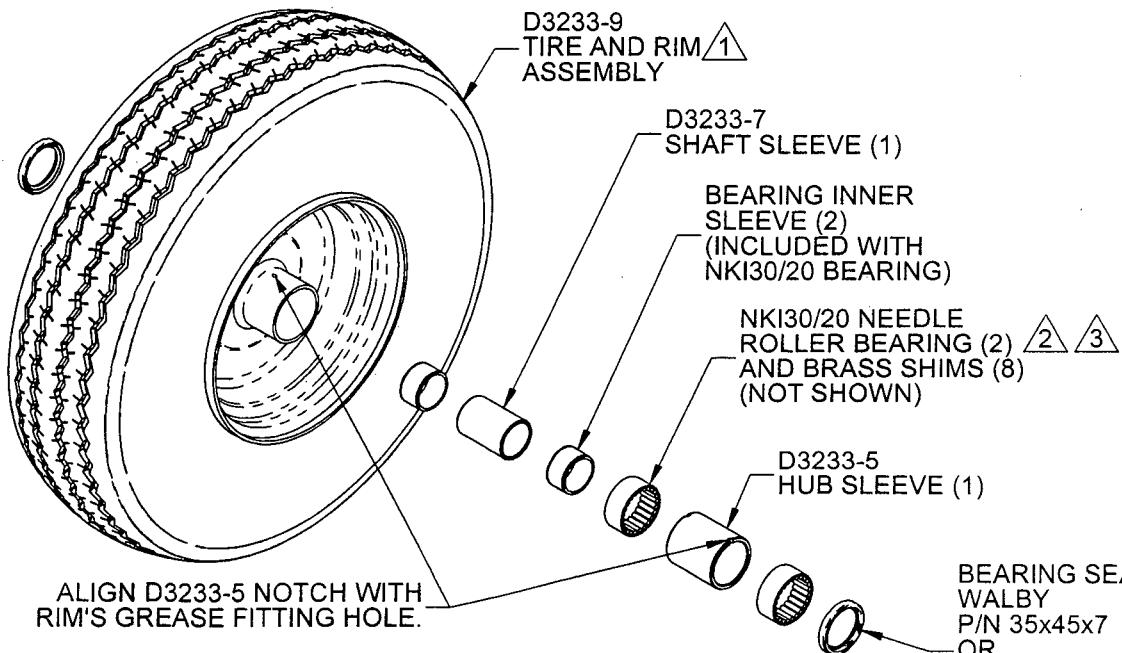
# PRELIMINARY ISSUE

|         |          |   |                         |  |  |  |
|---------|----------|---|-------------------------|--|--|--|
| DESIGN  | DRAWN BY | DART AEROSPACE LTD<br>HAWKESBURY, ONTARIO, CANADA |                         |  |  |  |
| CHECKED | APPROVED | DRAWING NO.                                       | REV. B<br>D3233         |  |  |  |
| DATE    | 05.03.08 | TITLE   | SCALE<br>WHEEL ASSEMBLY |  |  |  |
| A       | 05.02.18 | NEW ISSUE   |                         |  |  |  |
| B       | 05.03.08 | ADDED BEARING SEALS                               |                         |  |  |  |



| WHEEL SPECIFICATIONS                |                      |                        |
|-------------------------------------|----------------------|------------------------|
| SIZE                                | MAXIMUM LOAD         | MAXIMUM INFLATION LOAD |
| TIRE: 19.0 x 5.8<br>RIM: 5.70 x 8.0 | 910 LBS<br>(RANGE C) | 90 PSI*                |

\* MANUFACTURER'S RECOMMENDATIONS ARE 75 PSI FOR HIGH SPEED USE.



## D3233-041 WHEEL ASSEMBLY

### NOTES:

- 1) POSSIBLE SUPPLIER: McMaster-Carr, P/N 8353T74
- 2) POSSIBLE SUPPLIER: GENERAL BEARING
- 3) PRESS FIT NEEDLE ROLLER BEARINGS INTO RIM HUB WITH (4) 0.5 X 0.75 X 0.004 BRASS SHIMS PER BEARING, (1) AT EACH QUADRANT
- 4) POSSIBLE SUPPLIER: GENERAL BEARING
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 6) ALL DIMENSIONS ARE IN INCHES

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SUBJECT TO AMENDMENT

WITHOUT NOTICE

RETURN TO

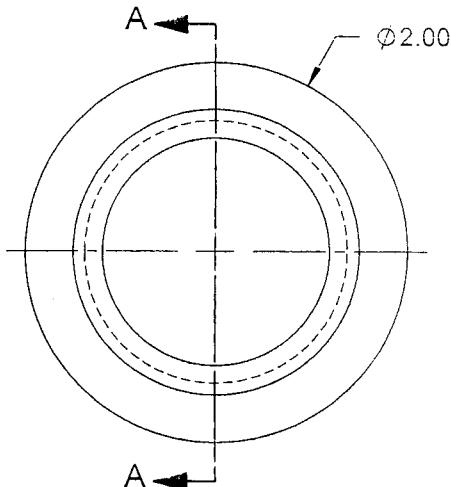
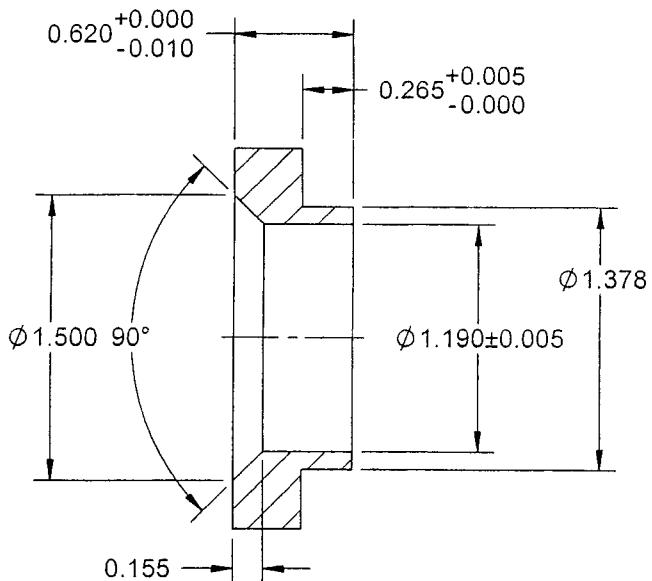
ENGINEERING

WORK ORDER

NO. 22926

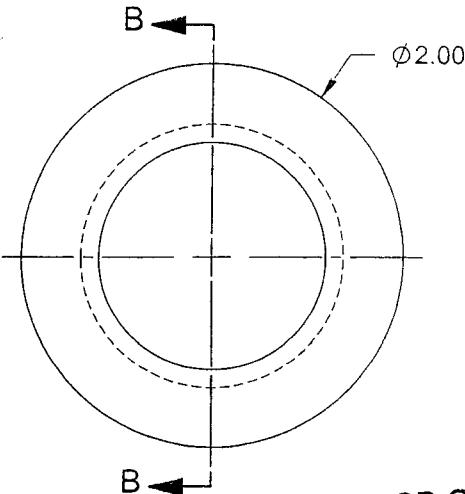
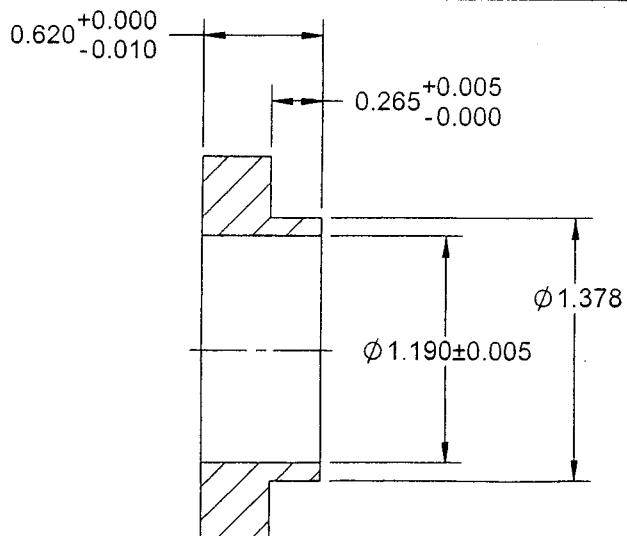
# PRELIMINARY ISSUE

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|---------|----------|-----------------------------|--------------|
| DESIGN  | DRAWN BY | DART AEROSPACE LTD          |              |
| CHECKED | APPROVED | HAWKESBURY, ONTARIO, CANADA |              |
| DATE    |          | DRAWING NO.                 | REV. B       |
|         |          | D3233                       | SHEET 2 OF 3 |
|         | 05.03.08 | TITLE                       | SCALE        |
|         |          | WHEEL ASSEMBLY              | 1:1          |



SECTION A-A

D3233-1 INSIDE WASHER



SECTION B-B

D3233-3 OUTSIDE WASHER

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Subject to Amendment

Print Date: 10/10/2008

Print Notice: 10/10/2008

Print Type: DRAFT

Print Version: 1.0

Print Page: 1 of 2

Print Job ID: 22926

NOTES:

- 1) MATERIAL: AISI 1020-1025 ROUND TUBING PER MIL-T-5066 OR ASTM A513-00  
MT1020 SRA OR AMS 5075 OR AMS 5077, COLD DRAWN, SEAMLESS  
(REF. DART SPEC. M1020TR)
- 2) FINISH: POWDER COAT FIRE RED (REF. 4.3.5.10) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010

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~1.166

1,147

~~1.185 - 1.165~~

~~1.185 - 1.148~~

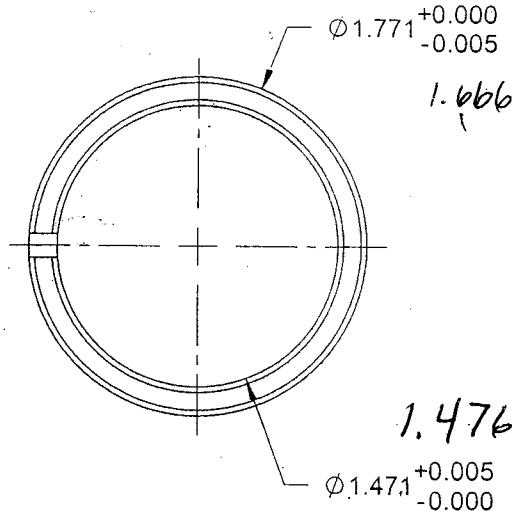
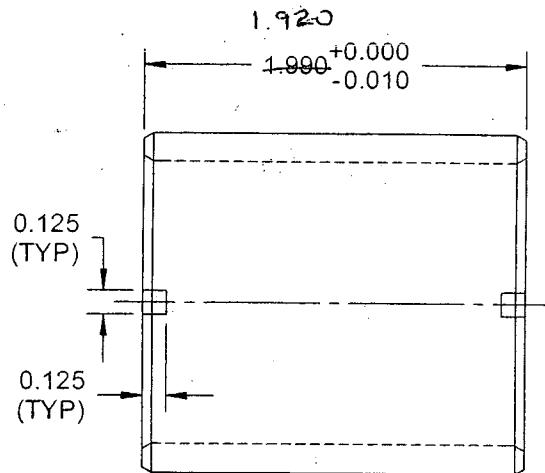
~~1.185~~

1.185 - 1.155

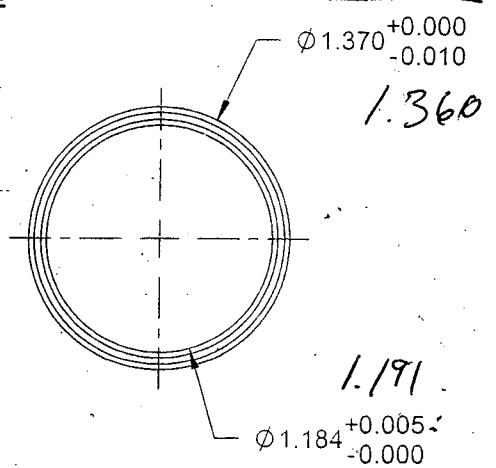
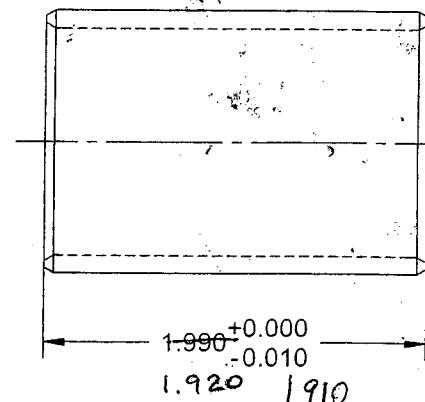
**PRELIMINARY ISSUE**

|         |          |   |                        |
|---------|----------|---|------------------------|
| DESIGN  | DRAWN BY | DART AEROSPACE LTD<br>HAWKESBURY, ONTARIO, CANADA |                        |
| CHECKED | APPROVED | DRAWING NO.<br><b>D3233</b>                       | REV. B<br>SHEET 3 OF 3 |
| DATE    | 05.03.08 | TITLE<br><b>WHEEL ASSEMBLY</b>                    | SCALE<br>1:1           |

*RF 05.04.07*



### D3233-5 HUB SLEEVE



*RF 05.04.07*

### D3233-7 SHAFT SLEEVE

#### NOTES:

- 1) MATERIAL: AISI 1020-1025 ROUND TUBING PER MIL-T-5066 OR ASTM A513-00, MT1020 SRA OR AMS 5075 OR AMS 5077, COLD DRAWN, SEAMLESS, AMENDMENT  
NOTICE
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.010 TO 0.030

*INPUT CONTROLLED COPY*

*RETURN TO  
ENGINEERING*

*WORK ORDER*

*NO. 22926*

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Job Costing Report

Dart Aerospace Ltd.  
Hawkesbury

Apr 04, 2005  
12:27 pm

|                   |   |            |                              |                |
|-------------------|---|------------|------------------------------|----------------|
| Work Order No     | : | 0022926    | Department Code:             |                |
| Project Name      | : | D3233-5    | Burden Flags                 | : NNNNNNNN     |
| Project For       | : | WK517      | WO Status                    | : Open         |
| Work Order Type   | : | Main       | Invoice State                | : Not Invoiced |
| Main WO Number    | : |            | Invoice Date                 | :              |
| House Part Number | : | D3233-5    | Invoice Number               | :              |
| Description       | : | Hub Sleeve | Invoice Amount               | : 0.00         |
| Manufactured      | : | Yes        |                              |                |
| Amount Req'd      | : | 8          | Order Entry No               | :              |
| Amount Done       | : | 0          | OE Value                     | : 0.00         |
| Start Date        | : | 04-04-05   | Est Mark Up                  | : 0.000%       |
| Est Finish Date   | : | 04-22-05   | Actual Mark Up               | : 0.000%       |
| Act Finish Date   | : |            |                              |                |
| Drawings Reqd     | : | No         |                              |                |
| Ok for Approval   | : |            |                              |                |
| Approval Rec'd    | : |            | \$0 Posted to Finished Goods |                |

|                   | Estimated  | Actual   | Var. %   | Posted | To Post |
|-------------------|------------|----------|----------|--------|---------|
| Material Cost     | : 0.00     | 0.00     | 0.00     | 0.00   | 0.00    |
| Engineering Hours | : 0.00     | 0.00     | 0.00     |        |         |
| Engineering Cost  | : 0.00     | 0.00     | 0.00     | 0.00   | 0.00    |
| Production Hours  | : 0.00     | 0.00     | 0.00     |        |         |
| Production Cost   | : 0.00     | 0.00     | 0.00     | 0.00   | 0.00    |
| Packaging Hours   | : 0.00     | 0.00     | 0.00     |        |         |
| Packaging Cost    | : 0.00     | 0.00     | 0.00     | 0.00   | 0.00    |
| OverHead Hours    | : 0.00     | 0.00     | 0.00     |        |         |
| OverHead Cost     | : 0.00     | 0.00     | 0.00     | 0.00   | 0.00    |
| CNC Hours         | : 0.00     | 0.00     | 0.00     |        |         |
| CNC               | : 0.00     | 0.00     | 0.00     | 0.00   | 0.00    |
| Misc. Hours       | : 0.00     | 0.00     | 0.00     |        |         |
| Misc.             | : 0.00     | 0.00     | 0.00     | 0.00   | 0.00    |
| <br>Burden        | <br>: 0.00 | <br>0.00 | <br>0.00 |        |         |
| Total Cost        | : 0.00     | 0.00     | 0.00     |        |         |
| Mark up           | : 0.000    | 0.000    |          |        |         |
| Selling Cost      | : 0.00     | 0.00     |          |        |         |

|                        | Estimated | Actual |
|------------------------|-----------|--------|
| Labour Hrs/Amount Done | : 0.00    | 0.00   |
| Profits/(Loss)         | : 0.00    | 0.00   |